

Claims:

1. A catheter comprising:
 - (a) an elongate catheter body having a distal end and a proximal end, the elongate catheter body including an indicator lumen and an insulating lumen, the indicator lumen having a restricted cross sectional area adjacent the distal end of the elongate catheter body;
 - (b) a dilution sensor connected to the elongate catheter body; and
 - (c) a guide wire extending through the restricted cross sectional area of the indicator lumen to project from the distal end of the elongate catheter body.
2. The catheter of Claim 1, wherein the dilution sensor is a thermistor.
3. The catheter of Claim 1, wherein the insulating lumen is at least partially intermediate the indicator lumen and the dilution sensor.
4. The catheter of Claim 1, wherein the elongate catheter body is configured as a retrograde catheter.
5. A catheter comprising:
 - (a) an elongate catheter body having a distal end and a proximal end, the elongate catheter body including an indicator lumen; and
 - (b) a guide wire extending through a length of the indicator lumen.
6. The catheter of Claim 5, wherein the indicator lumen terminates at the distal end of the elongate catheter body.
7. The catheter of Claim 5, wherein the indicator lumen has a reduced cross sectional area adjacent the distal end of the elongate catheter body.
8. The catheter of Claim 5, wherein the indicator lumen has a reduced cross sectional area adjacent the distal end of the elongate catheter body and the guide wire is sized to be slideably received through the reduced cross sectional area.

9. The catheter of Claim 5, wherein the indicator lumen has a reduced cross sectional area adjacent the distal end of the elongate catheter body and the guide wire is sized to reduce passage of an indicator through the reduced cross sectional area of the indicator lumen.

30 10. The catheter of Claim 5, wherein the indicator lumen terminates adjacent the distal end of the elongate catheter body.

11. The catheter of Claim 5, wherein the indicator lumen includes a terminal port at the distal end of the elongate catheter body and a radial injection port spaced from the 35 terminal port.

12. The catheter of Claim 5, further comprising a dilution sensor connected to the elongate catheter body.

13. The catheter of Claim 12, wherein the dilution sensor is a thermistor.

14. A method of introducing an indicator through a catheter, the method 40 comprising:

(a) passing a guidewire through an indicator lumen in an elongate catheter body; and

(b) passing the indicator through the indicator lumen to pass from the elongate catheter body.

45 15. The method of Claim 14, further comprising simultaneously passing the guidewire and the indicator through the indicator lumen.

16. The method of Claim 14, further comprising passing the guidewire through a reduced cross sectional area of the indicator lumen to reduce passage of the indicator there through.

50 17. The method of Claim 14, further comprising simultaneously locating the guidewire and the indicator in the indicator lumen.

18. The method of Claim 14, further comprising passing the guidewire through a reduced cross sectional area of the indicator lumen to increase a flow of the indicator through a radial injection port.